

# Modernizing Vital Records with eVitals Standards

**Michelle Williamson, RN, MSIS, CPHIT**

Senior Health Informatics Scientist  
Centers for Disease Control and Prevention  
National Center for Health Statistics

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# Objectives

- ❑ **To describe activities within the Federal government that have supported plans for Health Information Technology**
- ❑ **To describe the significance of standards for Health Information Technology**
- ❑ **To describe the CDC/NCHS eVitals Standards Initiative**
- ❑ **To provide details on the eVitals Standards activities**

# U.S. Plans for Health Information Technology



**"By computerizing health records, we can avoid dangerous medical mistakes, reduce costs, and improve care."**

**Former President G. W. Bush  
in State of the Union Address on  
January 20, 2004**

**Established goal for most Americans  
to have access to an interoperable  
electronic health record (EHR) by  
2014**

**Established the Office of the  
National Coordinator for Health  
Information Technology (ONC)  
through an Executive Order**

# **U.S. Plans for Health Information Technology**

**“To lower healthcare cost, cut medical errors, and improve care, we’ll computerize the nation’s health record in five years, saving billions of dollars in health care costs and countless lives.”**

**President Barack Obama  
in First Weekly Address on  
January 24, 2009**

**Consistent with Bush’s 2014 goal  
for electronic health records**



# **American Recovery & Reinvestment Act (ARRA)**

- ❑ **President Obama signed ARRA on Feb. 17, 2009**
- ❑ **ARRA required the Department of Health and Human Services (DHHS) to create, vet and publish an initial set of HIT system standards, implementation specifications and testing criteria to promote adoption and “meaningful use” of EHRs**
- ❑ **ARRA is serving to stimulate adoption of HIT**

# Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009

## TITLE XIII—HEALTH INFORMATION TECHNOLOGY

### SEC. 13001. SHORT TITLE; TABLE OF CONTENTS OF TITLE.

(a) SHORT TITLE.—This title (and title IV of division B) may be cited as the “Health Information Technology for Economic and Clinical Health Act” or the “HITECH Act”.

(b) TABLE OF CONTENTS OF TITLE.—The table of contents of this title is as follows:

Sec. 13001. Short title; table of contents of title.

Subtitle A—Promotion of Health Information Technology

PART 1—IMPROVING HEALTH CARE QUALITY, SAFETY, AND EFFICIENCY

Sec. 13101. ONCHIT; standards development and adoption.

PART 2—APPLICATION AND USE OF ADOPTED HEALTH INFORMATION TECHNOLOGY  
STANDARDS; REPORTS

Sec. 13111. Coordination of Federal activities with adopted standards and implementation specifications.

Sec. 13112. Application to private entities.

Sec. 13113. Study and reports.

# What is a Standard?

**stan·dard** *noun* \ˈstan-dərd\

- **something considered by an authority or by general consent as a basis of comparison**

# The Big Mac Standard



**Two all-beef patties, special sauce, lettuce, cheese, pickles, onions – on a sesame seed bun**

# Standards are the Essential Building Blocks for Electronic Health Record Systems

<b>Classification Systems and Terminologies</b> <ul style="list-style-type: none"><li>• SNOMED</li><li>• LOINC</li><li>• ICD/ICF</li></ul>	<b>Messaging and Data Interchange</b> <ul style="list-style-type: none"><li>• HL7 (V2, V3)</li><li>• X12</li><li>• NCPDP</li></ul>
<b>Core Data Sets</b> <ul style="list-style-type: none"><li>• Vital Statistics</li><li>• Hospital Discharge Data Set</li></ul>	<b>Document</b> <ul style="list-style-type: none"><li>• ASTM CCR</li><li>• HL7 CDA</li><li>• HL7/ASTM CCD</li></ul>
<b>Identifiers</b> <ul style="list-style-type: none"><li>• NPI</li><li>• HPID</li></ul>	<b>Privacy and Security</b> <ul style="list-style-type: none"><li>• Patient Consent</li><li>• Pseudonymization</li></ul>

# Standards for Population Health and Healthcare



NCHS and its partner organizations have developed, implemented and maintained many of the critical standards used in population health and healthcare:

- Standard certificates for vital events
- International Classification of Diseases and its clinical modifications
- Uniform data sets for hospital and ambulatory care

These standards can contribute to and benefit from current deliberations on national standards.

## **NCHS eVitals Standards Initiative**

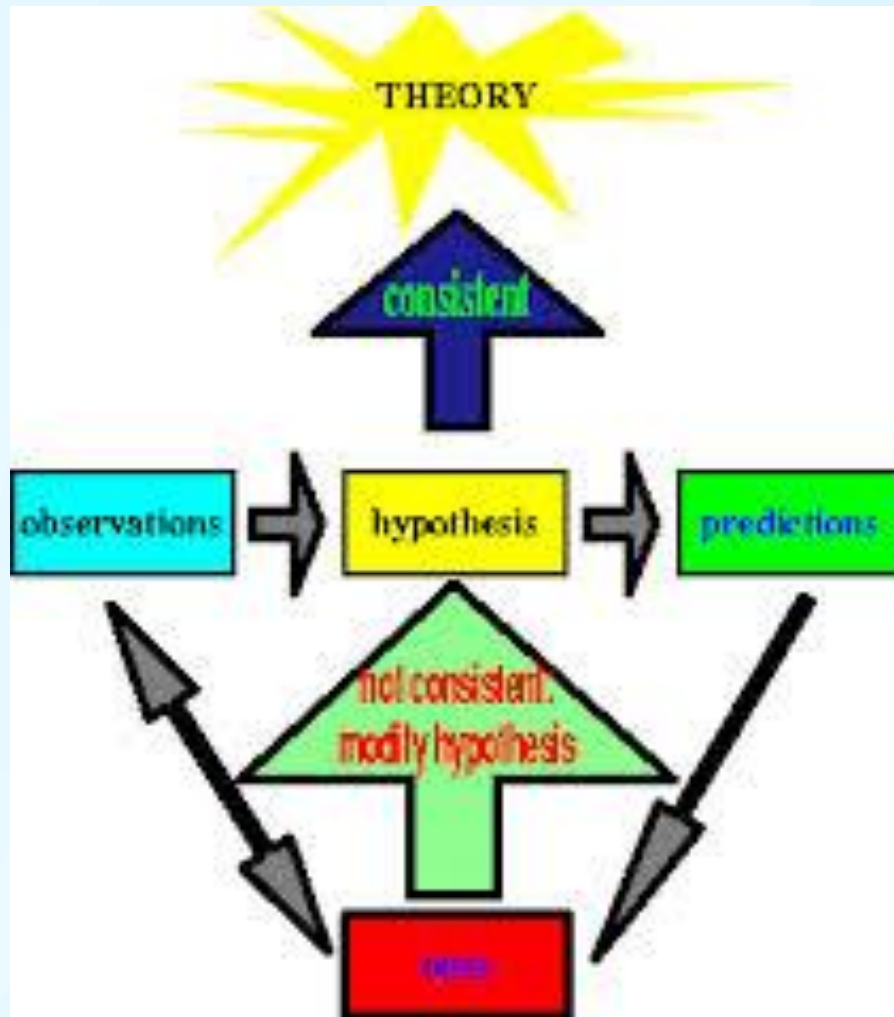
**Develop national standards to facilitate the national exchange of birth, death and fetal death records between electronic health record systems and state vital statistics systems**



# **Why the eVitals Standards Initiative?**

- ❑ A significant number of data items for Vital Registration are captured in medical records for the:**
  - U.S. Standard Certificate of Live Birth**
  - U.S. Standard Certificate of Death**
  - U.S. Standard Report of Fetal Death**
- ❑ Medical Records have been identified as the preferred source to obtain medical and health data**
- ❑ It provides consistency for collecting VR data using emerging EHR data and communication standards**

# Why the eVitals Standards Initiative?



## Hypothesis:

Interoperability with EHRs may improve the timeliness, accuracy and quality of the information collected for vital records purposes

# Debates About Using EHRs for VR

Debates abound about the:

- Use of EHRs as a source for VR information
- Benefits of EHR approach to VR community
- Improvements in quality and timeliness of VR data
- Reduction in the redundancy of data captured



# NCHS eVitals Standards Initiative



It is worthwhile to lay the foundation for standardizing the exchange of VR data as efforts towards developing and implementing EHRs continue

# Electronic Health Record (EHR) and Vital Record (VR) Systems Information Exchange

**Capturing birth and death data in electronic health record systems**



**Improving the timeliness, accuracy, and completeness of vital records data**

**Electronic exchange using HL7 and IHE-based standards**



# **eVitals Standards Activities**

- ❑ **Stakeholder Engagement**
- ❑ **Standards Development Activities**
- ❑ **Trial Implementations, Demonstrations and Pilot Testing**

# Stakeholder Engagement and Standards Development Activities

- ❑ **Collaborating with the National Association for Public Health Statistics and Information Systems (NAPHSIS) and individual states/jurisdictions to support standards development activities**
- ❑ **Participating in standards development activities with the Standards Development Organizations (SDOs)**





# Health Level Seven International (HL7)

- Dedicated to developing standards for the exchange, integration, sharing, and retrieval of electronic health information
- Includes over 2,300 members representing more than 90% of the information systems vendors serving healthcare
- VR standards developed through support of the HL7 Public Health and Emergency Response Work Group (PHER WG)

Available at: <http://www.hl7.org/about/index.cfm?ref=nav>

# HL7 Vital Records Standards

## Data Model

HL7 V3 Domain  
Analysis Model:  
Vital Records,  
Release 1

## Functional Profile

HL7 EHR-S FM  
VR Functional  
Profile, Release  
1.1

## Messaging

HL7 V2.5.1:  
Birth & Fetal  
Death  
Reporting, R1  
Draft Standard  
for Trial Use  
(DSTU)

HL7 V2.5.1:Vital  
Records Death  
Reporting, R1  
DSTU

## Document

HL7 V3 CDA R2:  
Birth & Fetal  
Death  
Reporting, R1  
DSTU

HL7 V3 CDA R2:  
Vital Records  
Death  
Reporting, R1  
DSTU

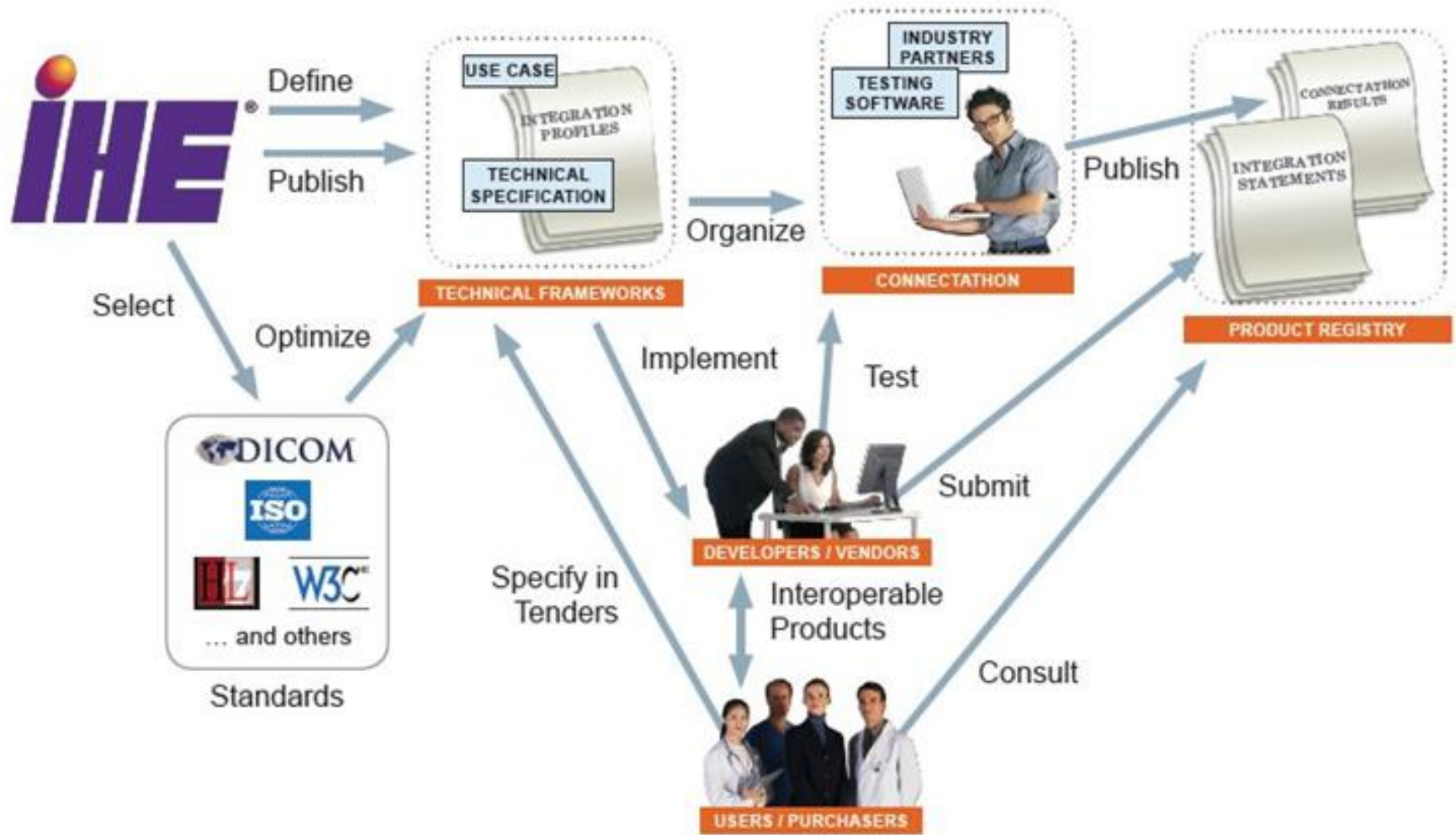


## **Integrating the Healthcare Enterprise**

- Promotes the coordinated use of established standards such as HL7 to address specific clinical needs in support of optimal patient care
- VR standards developed through support of the IHE Quality, Research and Public Health Committee (QRPH)

Available at: <http://www.ihe.net/>

# Integrating the Healthcare Enterprise (IHE)



# IHE Vital Records Standards

## Content Profiles

IHE Birth and  
Fetal Death  
Reporting (BFDR)

IHE Vital Records  
Death Reporting  
(VRDR)

- Identifies the EHR content (medical/health information) that may be used for VR reporting
- Defines:
  - Structure of the form used for pre-population based on the standard Facility Worksheet
  - Document that may be submitted based on the pre-population

# eVitals Standards Trial Implementations

## Trial Implementations at IHE Connectathon

- ❑ **Structured testing event that includes hundreds of vendors, engineers and IT architects**
- ❑ **Participate in a full week of interoperability testing using real-world clinical scenarios**
- ❑ **Connectathons are held globally in North America, Europe, Asia, Australia, and Japan year-round**



# eVitals Standards Demonstrations

## Healthcare Information and Management Systems Society (HIMSS) Interoperability Showcase



# eVitals Standards Demonstrations

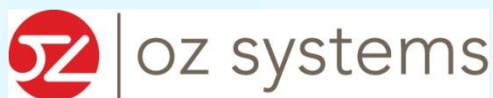
## National Association for Public Health Statistics and Information Systems (NAPHSIS) 2013 Demonstrations



# NAPHSIS/NCHS 2013 Annual Conference Demonstration

## IHE Birth and Fetal Death Reporting Content Profile

### Form Manager



FINAL (5/04)

\_\_\_\_\_  
Mother's medical record#  
\_\_\_\_\_  
Mother's name

FACILITY WORKSHEET FOR THE LIVE BIRTH CERTIFICATE

For preparation resulting in the birth of a live or still-born infant, this worksheet should be completed for the live birth only in the following:  
For each subsequent live birth, complete the "Worksheet for Multiple Births." For any still live in the pregnancy, complete the "Worksheet for Fetal Death Report."  
For partial deliveries, miscarriages, abortions, stillbirths or conceptions in utero, and conceptions by words and abbreviations please see "The Guide to Completing Facility Worksheets for the Certificate of Live Birth."

1. Facility name\* \_\_\_\_\_  
(If not applicable, give street and number)

2. Facility ID# (Internal Provider Identifier) \_\_\_\_\_

3. City, Town or Location of birth: \_\_\_\_\_

4. County of birth: \_\_\_\_\_

5. Place of birth:  
☐ Hospital  
☐ Transferring birthing center (Transferring birthing center is defined as one which has no direct physical connection with (1) any operating delivery center; (2) Home birth; (3) Planned to deliver at home; ☐ Yes ☐ No; (4) Clinic/Center's Office; (5) Other (specify: e.g., not only, home, phone, etc.) \_\_\_\_\_

\*Facilities may wish to have pre-printed responses (hard-copy, mail or electronic) to questions 1-5 for births which occur at their institutions.

**Pre-natal**  
**Sources: Prenatal care records, mother's medical records, labor and delivery records**

Information for the following items should come from the mother's prenatal care records and from other medical reports in the mother's chart, as well as the infant's medical record. If the mother's prenatal care record is not in her hospital chart, please contact her prenatal care provider to obtain the record, or a copy of the prenatal care information. Preferred and acceptable sources are given before each section. Please do not provide information from sources other than those listed.

1 4/9/2004

Birth Certificate  
Facility Worksheet  
Form Pre-populate

### Form Filler



Present Birth  
Certificate Form  
with relevant  
clinical data from  
the EHR and allow  
for manual data  
entry

### Form Receiver



Send all the data  
(pre-populated  
and manual data  
entry) to VR  
System

# NAPHSIS/NCHS 2013 Annual Conference Demonstration

## HL7 V2.5.1 Vital Records Death Reporting, Release 1 (US Realm)

### Funeral Director



Electronically completes the funeral director's section of the Death Certificate

### EHR



Allows access to the EHR while clinician completes medical certifier's section of the Death Certificate

### EDRS



Electronically send all the data entered through the EHR to the VR System

# eVitals Standards Pilot Testing



- Minnesota Department of Health
  - Evaluating readiness for secure electronic exchange of birth registration information using the IHE and HL7 standards

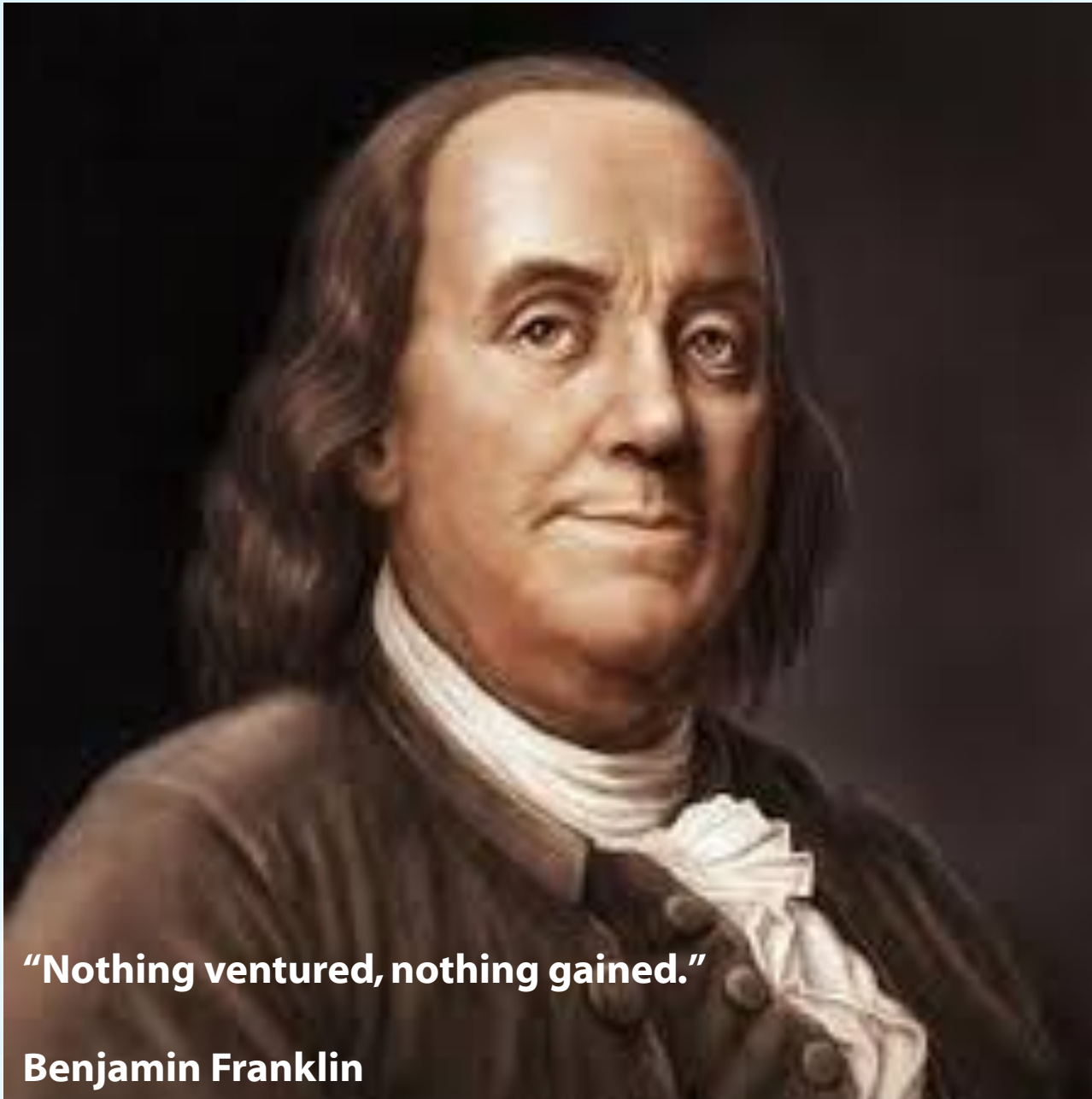


- Utah Department of Health
  - Collaborating with Intermountain Healthcare to test sending death information using the HL7 V2.5.1 message

# Challenges to eVitals Standards Development and Implementation

- **States/Jurisdictions legally responsible for the registration of vital events concerned about the accuracy and quality of EHR data**
- **Limited funding to support states/jurisdictions pilot testing of eVitals Standards**
- **Vital Records not specifically recognized in Meaningful Use Regulations**
- **Limited EHR and VR system vendors adoption of eVitals standards**





**“Nothing ventured, nothing gained.”**

**Benjamin Franklin**

## **Contact Information**

**Michelle Williamson, MSIS, RN, CPHIT**  
**Senior Health Informatics Scientist**  
**Centers for Disease Control and Prevention**  
**National Center for Health Statistics**  
**Office of the Center Director**  
**Classifications and Public Health Data Standards**  
**Email: [mwilliamson@cdc.gov](mailto:mwilliamson@cdc.gov)**